

**REMARKS**

Reconsideration and allowance of the subject Application are respectfully requested. Claims 1-13 are all the claims pending in the application, of which claims 1-11 have been considered by the Examiner. Applicants herein add new claims 12 and 13, which are supported at least by Figure 5 of the original application. No new matter has been added. Applicant respectfully submits that the pending claims define patentable subject matter.

**I. Claim Rejections - 35 U.S.C. § 102**

The Examiner has maintained the rejections of claims 1-2 and 11 under 35 U.S.C. § 102(b) as allegedly being anticipated by Brown, JR. (U.S. Publication No. 2004/0017289 A1; hereinafter "Brown"). Applicants traverse these rejections for at least the following reasons.

To clarify the intended meaning of "synchronized with the rotation" Applicants have amended claims 1 and 11 to each recite "synchronized with the rotation cycle." Applicants have similarly amended claims 3, 6, 7, and 9.

***The Brown Reference***

Applicants respectfully submit that Brown cannot meet the recitation in claim 1 of "means for extracting a signal which is synchronized with the rotation cycle of rotating body by the data measured by the measuring means."

According to the Examiner, dictionary.com defines the word "synchronize" as to go on, move, operate, work, etc., at the same rate and exactly together (Advisory Action, page 2). Applicants respectfully disagree with the Examiner's definition and submit that the word "synchronized is not limited to the same rate, but also includes a fraction or multiple of the rate

of the rotation cycle. However, assuming *arguendo* that the Examiner's definition is correct, Brown fails to disclose any signal that operates at the same rate as, or exactly together with the rotation cycle of the tire. Brown discloses that temperature is measured over a range of speed and load conditions and that this measured data is plotted for multiple inflation pressures (paragraph [0010]). However, this disclosure of Brown does not teach or fairly suggest that the temperature is measured once per each rotation cycle of the tire, i.e., synchronized with the rotation cycle under the Examiner's definition of synchronized.

Secondly, the Examiner alleges that the Brown reference teaches the data collection of pressure synchronized with temperature during the tire rotation, and issues an warning when the tire pressure is at abnormal range (Advisory Action, page 2). The Examiner alleges that therefore the Brown reference teaches all of the claimed limitations. By this, it appears to Applicants that the Examiner is alleging that the signal of Brown is synchronized with rotation of the tire because the pressure is synchronized with the temperature. However, this is not the feature recited in claim 1.

Brown measures an ambient temperature and sets a threshold warning pressure based upon that ambient temperature (paragraph [0010], lines 14-17). Thereafter, gauge pressure and gauge temperature inside the tire cavity are measured and used to calculate an equivalent pressure (filter pressure) at the ambient temperature (paragraph [0010], lines 19-22). Brown does not teach or fairly suggest that these temperatures and/or pressures are measured or extracted from the measured data at a rate that is equal to or a multiple or fraction of the rotation cycle of the tire. For example, neither the temperature nor pressure of Brown is measured once

for each rotation cycle of the tire. Nor is the temperature or pressure of Brown measured once for a certain number of rotations of the tire, or multiple times per rotation of the tire.

In the claimed invention, since an abnormality of the rotating body such as a tire burst or a separation of the tread can be detected as a cyclic signal by extracting a signal which is synchronized with the rotation cycle of rotating body, it is possible to detect the abnormality of the rotating body in early stage. On the other hand, in the Brown reference, since “means for extracting a signal which is synchronized with the rotation cycle of rotating body” is not disclosed, it is not possible to obtain the effects of the present invention mentioned above.

In light of the above, Applicants submit that Brown fails to teach or suggest extracting a signal which is synchronized with the rotation cycle of rotating body and that claim 1 is patentable over Brown.

Because claim 2 depends on claim 1, Applicants submit that this claims should be allowable at least by virtue of their dependency. Moreover, claim 11 should be allowable for at least the same reasons as claim 1.

In addition, as discussed in the Response filed February 25, 2009, claim 2 recites that “the various physical quantities of the rotating body measured by the measuring means is a signal correlated with vibration, sound, rotating number or rotation.” The Examiner points to paragraph [0006], lines 3-9 of Brown as teaching this feature. However, that paragraph merely states that various types of sensors for pressure detection are available and the method should be operable with any of those types (paragraph [0006]). Those skilled in the art clearly understand that pressure is not the same variable as vibration, sound, or rotation number. Therefore, Brown

fails to disclose a signal correlated with any of the claimed variables. Accordingly, claim 2 is further distinguishable over Brown at least for its recitation of “a signal correlated with vibration, sound, rotating number or rotation.”

## **II. Claim Rejections - 35 U.S.C. § 103**

The Examiner has rejected claims 3-10 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Brown as applied to claim 1 above, and further in view of Brusarosco et al. (U.S. Publication No. 2007/0010928 A1; hereinafter “Brusarosco”).

Because Brusarosco fails to supply the deficiencies of Brown, Applicants submit that claims 3-10 are patentable at least by virtue of their dependency.

In regard to claim 5, the Examiner points to paragraph [0020] of Brown as allegedly teaching a delay circuit provided on a signal line between an input portion of data from the measuring means and an adaptive digital filter, as included in claim 5. However, this paragraph merely discloses that before measuring the amplitude, the signal is filtered with a low-pass filter (paragraph [0020]). Those skilled in the art would understand that a low-pass filter is not the same as a delay circuit.

Additionally, regarding claim 6, the Examiner points to paragraph [0020] of Brown as allegedly teaching a delay circuit provided on a signal line between an input portion of data from the measuring means and a comparator, as claimed. However, this paragraph describes a prior art patent that measures the distance between a vehicle axle and the road to determine tire deflection which is, according to Brown, “a comparatively exact measure of the respective [tire]

load” (paragraph [0006]). Those skilled in the art would understand that this measurement in Brown of tire load is not the same as the claimed delay circuit.

Because neither Brown nor Brusarosco teach a delay circuit, claims 5 and 6 are further distinguishable over the cited references for the features recited therein.

Regarding claim 9, the Examiner alleges that the sampling device of Brusarosco allegedly corresponds to the claimed features that “the data measured by the measuring means is sampled by a variable sampling in accordance with the data of rotating speed information.” However, Brusarosco merely discloses that a sampling device samples the signal “at a frequency of at least 5 kHz, preferably of at least 7 kHz” (paragraph [0048]), but fails to allege that the sampling is in accordance with any rotating speed information. Accordingly, it is submitted that claim 9 is further patentable for the features recited therein.

### **III. Conclusion**

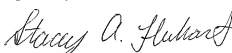
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.114(c)  
U.S. Application No.: 10/596,407

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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